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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,894

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Hisashi Kurokawa

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05/01/2006

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT

PAPER NUMBER

1756

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/803,894

Applicant(s)

KUROKAWA ET AL.

Examiner

Christopher RoDee

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/2/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claims 1-20 are objected to because of the following informalities: the sole independent claim states a process for forming fine droplets of a polymerizable monomer composition in an aqueous dispersion and a process for polymerizing the polymerizable monomer composition. It appears that these are both positively recited steps in the process but the current format suggests each step could be an intended use because each process is "for" a certain result, not that the result is required to occur. The Examiner suggests that the claims be amended to make explicit that the "forming" and polymerizing" steps are required. Appropriate correction is required.

Because the specific language for invoking § 112, sixth paragraph, has not been recited the claims have not been considered under this section and paragraph of code. See MPEP 2181.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant claims are directed to a method for manufacturing a polymerized toner. The method appears to recite two steps: a process for forming fine droplets of a polymerizable

Art Unit: 1756

monomer composition in an aqueous dispersion and a process for polymerizing the polymerizable monomer composition. The method also specifies that the process for forming the fine droplets is accomplished by required steps including preparing an agitating apparatus as specified, providing a polymerizable monomer and an aqueous dispersion medium into the dispersion supply tank of the agitating apparatus; mixing the polymerizable monomer composition and the aqueous dispersion medium by an agitator to obtain a dispersion of fine droplets, and then providing the dispersion to the process for polymerizing. The claimed method also specifies that in the process for forming the fine droplets  $R/\Theta$  is 2 or more, and R is 30 peripheral velocity (m/s) m/s or more, wherein the of the agitating blade or rotor of the agitator is designated by R, and the number of circulations, represented by (throughput of the dispersion (liter/h) x agitating time (h)) / (provided quantity of the polymerizable monomer composition and the aqueous dispersion medium (liter)), is designated by  $\Theta$ . It is unclear in the instant claims what the "throughout of the dispersion" defines. The claimed method includes general steps of "forming" and "polymerizing" as discussed above and specific steps in the "forming" process as discussed above. There is no manipulative step requiring movement or production of the dispersion to identify what "throughput" is associated with in the process. For example, is the throughput the amount of the dispersion that exits the agitating apparatus after the specified steps of (1), the amount of dispersion that is mixed in the mixing step, or the quantity of dispersion in the dispersion tank. It is also unclear what the "provided quantity of the polymerizable monomer composition and the aqueous dispersion medium" are in the claims. It is unclear if this is the quantity (or amount) of material present in the dispersion tank or added to the agitator. In the latter case, it appears that the "throughout" of the process would be the same as the provided quantity as the amount of material added to the system would also have to be the same amount of material removed during the fine droplet step. There is no apparent

Art Unit: 1756

reaction that would result in a different amount of material (e.g., consumption of material).

Because the artisan reviewing the instant claims must know what “throughput” and “provide quantity” mean to identify the meets and bounds of the claims, the claims as presented are indefinite.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-8, and 14-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsuji *et al.* in US Patent Application Publication 2003/0224276.

Tsuji discloses in Figure 5 a dissolving vessel **9** (i.e., a dispersion supply tank) that carries out a dissolving step of a polymerizable monomer composition in an aqueous medium and a granulation vessel **10** that carries out granulation (i.e., an agitator). The dispersion and granulation are carried out by stirring and dispersion for a certain time by the action of strong shear force, impact and turbulent flows produced between a high-speed revolving stirring blade built in a stirrer **11** and a screen which are provided inside the granulation vessel **10**, thus microscopic-order particles of the polymerizable monomer composition are formed. The particles of the polymerizable monomer composition are sent to the polymerization vessel **12** together with the aqueous medium through the liquid-feeding inlet **7**. The particles of the

Art Unit: 1756

polymerizable monomer composition and aqueous medium held in the polymerization vessel **12** are stirred with the stirring blade **5** driven by the stirring-blade drive unit **1**, which are then maintained at a desired temperature for a certain time, whereupon the polymerizable monomers in particles of the polymerizable monomer composition are polymerized, thus the toner particles are formed. See ¶ [0036]. The particle diameter of the toner particles obtained may usually be controlled by adjusting the quantity of a dispersion stabilizer used and the number of revolutions of the stirring blade. The peripheral speed of the stirring blade may be so controlled as to be a peripheral speed of from 15 to 40 m/sec at the tips of the stirring blade. The stirring blade may more preferably be controlled to a peripheral speed of from 20 to 35 m/sec as peripheral speed at its edge. See ¶¶ [0044] & [0045].

The polymerizable composition present in Example 1 contains monomers and colorant, along with charge control agent and colorant, as well as a dispersant. The polymerizable composition is mixed with aqueous medium in the granulation container **10** and stirred for 10 minutes. The contents of the container **10** are then added to the polymerization container **12**.

It appears that the volume of throughput of granulation process is the same as provided quantity of the polymerizable composition and aqueous dispersion medium because because all the material that enters the container **10** is released to the polymerization container **12**. It also appears that the time for obtaining the throughput and the agitation time are the same or substantially so because the output of the agitation process is obtained only during the agitating time. Thus,  $\Theta$  is 1. Given these values and the disclosed, the currently claimed  $R/\Theta$  value is equal to  $R$ .  $R$  corresponds to preferred values of 35 and 40, as discussed above. In this rejection the granulation container **10** can be considered both the dispersion supply tank and the agitator because the single component serves both functions

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji *et al.* in US Patent Application Publication 2003/0224276.

This reference was described above. In the event the dispersion supply tank and the agitator are separate components, which would require the polymerizable monomer composition to be mixed with the aqueous medium in container 9 of Tsuji, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mix the polymerizable monomer composition in the aqueous medium in container 9 because the composition and medium are desired to be mixed together before granulation and mixing them before transfer to the granulation container would expedite the process as material would be ready to be granulated when immediately entering the granulation container. Reduced production time would be expected by this modification of the disclosed art.

The artisan would also have found it obvious to optimize the characteristics of the produced toner with such features as circularity, toner particle size distribution, and production of a core-shell structure because the reference teaches that these characteristics are optimizable in the toner of the invention and the artisan would follow these teachings in order to reduce fog (¶ [0069]). See also, (¶¶ [0067] – [0083]; [0121] – [0139] & Examples).

Art Unit: 1756

***Allowable Subject Matter***

Claims 9-13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr  
27 April 2006

  
**CHRISTOPHER RODEE**  
**PRIMARY EXAMINER**